WHAT IS CLAIMED IS:

1. An image coding apparatus comprising:

a wavelet transform means for dividing an input image into subbands by wavelet transform;

a code block generating means for dividing each of the subbands generated by the wavelet transform means into code blocks each of a predetermined size;

a bit plane generating means for generating a bit plane including from a most significant bit to least significant bit in units of the code block;

a coding pass processing means for processing each of sample points in the bit plane by any of a plurality of coding passes; and

an arithmetic coding means for making arithmetic coding according to results of the coding pass processing;

the coding pass processing means reading, from a storage means, significance ant/non-significance information indicating whether sample points in an area including the position of a sample point being currently processed and which is occupied by a predetermined number of samples, and those existing around the area, are significant or non-significant, and making a parallel comparison between the significance/non-significance information and a plurality of preset matching patterns, thereby detecting a next sample point to be processed.

2. The apparatus as set forth in claim 1, wherein:

the matching patterns indicate significant or non-significant patterns at the

plurality of sample points, respectively, when a jump can be made from the position of an arbitrary sample point to the position of a next sample point to be processed; and

the coding pass processing means detects a sample point to which a jump can be made from the position of a sample point being currently processed by making a parallel comparison between the significance/non-significance information in an area including the position of a sample point being currently processed and which is occupied by a predetermined number of samples and those existing around the area and the plurality of matching patterns.

3. The apparatus as set forth in claim 1, wherein:

the matching patterns have jump address values set therein, respectively; and

the coding pass processing means detects a next to-be-processed sample point according to the jump address value set in any one of the matching patterns compared with the significance/non-significance information and that is found to coincide with the latter.

4. The apparatus as set fourth in claim 3, wherein when there is found no coincidence between the significance/non-significance information and the plurality of matching patterns as the result of the comparison them, the coding pass processing means sets a new area having the predetermined number of samples, reads, from the storage means, new significance/non-significance information indicating whether the sample points in the new area and those around the area, and makes a parallel comparison between the new significance/non-significance information and the preset

plurality of matching patterns.

5. The apparatus as set fourth in claim 1, wherein the significance/non-significance information is pre-initialized to "non-significant" for each code block.

6. An image coding apparatus including comprising:

a wavelet transform means for dividing an input image into subbands by wavelet transform;

a code block generating means for dividing each of the subbands generated by the wavelet transform means into code blocks each of a predetermined size;

a bit plane generating means for generating a bit plane including from a most significant bit to least significant bit in units of the code block;

a coding pass processing means for processing each of sample points in the bit plane by any of a plurality of coding passes; and

an arithmetic coding means for making arithmetic coding according to results of the coding pass processing;

the coding pass processing means reading, from a storage means, significance ant/non-significance information indicating whether sample points in the bit plane and those around them are significant or non-significant, and making a parallel comparison between the significance/non-significance information and a plurality of preset matching patterns, thereby detecting, as a next sample point to be processed, a one, nearest to the position of a sample point being currently processed, of the sample points having been determined, as the result of the comparison, to fit any of the

plurality of matching patterns.

7. The apparatus as set fourth in claim 6, wherein when there is found no sample point showing a coincidence between significance/non-significance information and the plurality of matching patterns, the coding pass processing means sets a new area having the predetermined number of samples, reads, from the storage means, new significance/non-significance information indicating whether the sample points in the new area and those around the area, and makes a parallel comparison between the new significance/non-significance information and the preset plurality of matching patterns.

8. The apparatus as set fourth in claim 6, wherein the significance/non-significance information is pre-initialized to "non-significant" for each code block.

9. An image coding method comprising the steps of:

dividing an input image into subbands by wavelet transform;

dividing each of the subbands generated in the wavelet transform step into code blocks each of a predetermined size;

generating a bit plane including from a most significant bit to least significant bit in units of the code block;

processing each of sample points in the bit plane by any of a plurality of coding passes; and

making arithmetic coding according to results of the coding pass processing;

in the coding pass processing, there being read, from a storage means, significance ant/non-significance information indicating whether sample points in an

area including the position of a sample point being currently processed and which is occupied by a predetermined number of samples, and those existing around the area, are significant or non-significant, and a parallel comparison being made between the significance/non-significance information and a plurality of preset matching patterns, thereby detecting a next sample point to be processed.

10. An image coding method comprising the steps of:

dividing an input image into subbands by wavelet transform;

dividing each of the subbands generated in the wavelet transform step into code blocks each of a predetermined size;

generating a bit plane including from a most significant bit to least significant bit in units of the code block;

processing each of sample points in the bit plane by any of a plurality of coding passes; and

making arithmetic coding according to results of the coding pass processing;

in the coding pass processing means, there being read, from a storage means, significance ant/non-significance information indicating whether sample points in the bit plane and those around them are significant or non-significant, and a parallel comparison being made between the significance/non-significance information and a plurality of preset matching patterns, thereby detecting, as a next sample point to be processed, a one, nearest to the position of a sample point being currently processed, of the sample points having been determined, as the result of the comparison, to fit any

of the plurality of matching patterns.

11. A program allowing a computer to execute a predetermined operation, the program including the steps of:

dividing an input image into subbands by wavelet transform;

dividing each of the subbands generated in the wavelet transform step into code blocks each of a predetermined size;

generating a bit plane including from a most significant bit to least significant bit in units of the code block;

processing each of sample points in the bit plane by any of a plurality of coding passes; and

making arithmetic coding according to results of the coding pass processing;

in the coding pass processing, there being read, from a storage means, significance ant/non-significance information indicating whether sample points in an area including the position of a sample point being currently processed and which is occupied by a predetermined number of samples, and those existing around the area, are significant or non-significant, and a parallel comparison being made between the significance/non-significance information and a plurality of preset matching patterns, thereby detecting a next sample point to be processed.

12. A program allowing a computer to execute a predetermined operation, the program including the steps of:

dividing an input image into subbands by wavelet transform;

dividing each of the subbands generated in the wavelet transform step into code blocks each of a predetermined size;

generating a bit plane including from a most significant bit to least significant bit in units of the code block;

processing each of sample points in the bit plane by any of a plurality of coding passes; and

making arithmetic coding according to results of the coding pass processing;

in the coding pass processing means, there being read, from a storage means, significance ant/non-significance information indicating whether sample points in the bit plane and those around them are significant or non-significant, and a parallel comparison being made between the significance/non-significance information and a plurality of preset matching patterns, thereby detecting, as a next sample point to be processed, a one, nearest to the position of a sample point being currently processed, of the sample points having been determined, as the result of the comparison, to fit any of the plurality of matching patterns.

13. A computer-readable recording medium having recorded therein a program including the steps of:

dividing an input image into subbands by wavelet transform;

dividing each of the subbands generated in the wavelet transform step into code blocks each of a predetermined size;

generating a bit plane including from a most significant bit to least significant

bit in units of the code block;

processing each of sample points in the bit plane by any of a plurality of coding passes; and

making arithmetic coding according to results of the coding pass processing;

in the coding pass processing, there being read, from a storage means, significance ant/non-significance information indicating whether sample points in an area including the position of a sample point being currently processed and which is occupied by a predetermined number of samples, and those existing around the area, are significant or non-significant, and a parallel comparison being made between the significance/non-significance information and a plurality of preset matching patterns, thereby detecting a next sample point to be processed.

14. A computer-readable recording medium having recorded therein a program including the steps of:

dividing an input image into subbands by wavelet transform;

dividing each of the subbands generated in the wavelet transform step into code blocks each of a predetermined size;

generating a bit plane including from a most significant bit to least significant bit in units of the code block;

processing each of sample points in the bit plane by any of a plurality of coding passes; and

making arithmetic coding according to results of the coding pass processing;

in the coding pass processing means, there being read, from a storage means, significance ant/non-significance information indicating whether sample points in the bit plane and those around them are significant or non-significant, and a parallel comparison being made between the significance/non-significance information and a plurality of preset matching patterns, thereby detecting, as a next sample point to be processed, a one, nearest to the position of a sample point being currently processed, of the sample points having been determined, as the result of the comparison, to fit any of the plurality of matching patterns.